

**Conclusions:** Results indicated three high-risk subgroups of adolescents, each characterized by a different pattern of substance use. Two risk groups are characterized by relatively high probabilities of prescription medication misuse.

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### Individual differences in controllability of social defeat stress as a predictor for escalated cocaine self-administration

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**Aims:** The small percentage of humans who experience traumatic events may become more vulnerable to later substance abuse disorder. Differences in response to social stress encounters were hypothesized to predict vulnerability to escalated cocaine taking.

**Methods:** Male Long-Evans rats were exposed to nine intermittent social defeat episodes over 21 days in an apparatus with three compartments permitting escape. To categorize individual subjects, we focused on the latency to enter a protective cage adjacent to the aggressor (threat zone), to escape from the aggressor after being defeated (fight), to return to the home cage (safe zone), as well as the total fight duration. For each behavior, individuals were rank-ordered based on these measures. Upon developing a behavioral profile for each individual, we then assessed saccharin preference, novelty-induced locomotion, cocaine-induced locomotion and intravenous cocaine taking. In a separate group of rats we measured total brain-derived neurotrophic factor (BDNF) and TrkB receptor mRNA via RT-PCR in hippocampal tissue 1 hour after the last defeat.

**Results:** Those individuals consistently falling in the lower third of the ranks are characterized by fast active motor behaviors when entering the threat zone, escaping the fight and returning to the safe zone, as well as shorter fight durations. Importantly, these individuals were highly vulnerable to escalated cocaine taking during a 24-h binge. Furthermore, there was a strong positive correlation between escalated cocaine intake and the probability to display a supine posture after an attack bite. Individuals consistently falling in the upper third of the ranks had a significantly blunted total BDNF and TrkB mRNA in the hippocampus, suggesting a decreased sensitivity to social stress leading to suppressed cocaine taking.

**Conclusions:** These differences in controllability during threatening social encounters may provide a new basis for the development of behavioral profiling for appropriate therapeutic intervention in susceptible individuals.

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### User satisfaction with health care provided for alcohol and drug dependency in Brazil



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**Aims:** The aim of the study was to measure patient satisfaction with health services providing treatment for alcohol and drug dependency in Brazil.

**Methods:** A cross-sectional study was performed between October 2011 and March 2012, in Brazil. A total of 1649 patients from alcohol and drug dependency health services were interviewed during the study period. Several aspects regarding client satisfaction were evaluated, including the patient view of knowledge, capacity and competence of health professional to listen and understand their problems.

**Results:** The patient response indicated, on average, a good satisfaction. The same results were observed when inquired about time to get an appointment, effect of the service in preventing relapses, and respect for individual rights.

**Conclusions:** The results suggest that satisfaction seems to be present in the treatment processes, compliance, and positive outcomes of the studied services in Brazil. And, considering that they are inter-related, such results may be very helpful for health care evaluation in our setting. Also, responses to specific items are of interest to service providers who want to understand how a particular aspect of the service could be improved.

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### Characterization of challenging experiences (i.e., bad trips) after ingesting psilocybin



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**Aims:** High-dose psilocybin sessions in supportive contexts have recently been reported to have sustained positive effects on attitudes, mood, and behavior. However, difficult experiences (i.e., 'bad trips,' which may include fear, anxiety, or paranoia) have been observed in some cases. The present analysis of high dose psilocybin sessions characterizes the incidence and predictors of having a bad trip and the correlation between bad trips and mystical experiences.

**Methods:** This analysis characterized bad trips from two previous studies ( $N=54$  participants at 30 mg/70 kg psilocybin). Incidence of participant-rated fear, anxiety, and paranoia were examined using individual items (see below). Correlations were examined between participant post-session ratings of bad trips [the AIA (dread of ego dissolution) subscale of the APZ (an altered consciousness measure) and the sum of 10 'bad trip' items from the States of Consciousness Questionnaire (SOCQ) and Hallucinogen Rating Scale (HRS)] with demographics, personality measures, and a post-session measure of mystical experience.

**Results:** Participants rated strong or extreme “fear” (24%, 13/54) and anxiety (“trapped and helpless”) (20%, 11/54); 17% (9/54) reported paranoia (“people... plotting against”) at some point during the session. Younger participants had higher bad trip scores (AIA,  $r = -.33$ ,  $p < .05$ ; SOCQ/HRS,  $r = -.27$ ,  $p < .05$ ). AIA scores were significantly correlated with mystical experience scores ( $r = .36$ ,  $p < .01$ ).

**Conclusions:** Subjective-effects measures indicated substantial incidence of bad trip effects during high dose psilocybin sessions. Being younger seemed to increase risk for these experiences. However, such experiences were positively correlated with having a mystical experience. Further results from these experimental data and a survey of the general population will be reported at the conference.

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### Multiple problem behaviors associated with amphetamine use among delinquent and incarcerated adolescents in Los Angeles County

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**Aims:** Research has shown that problem behaviors such as substance use, delinquency and unplanned pregnancy often co-occur in adolescents and may be influenced by both independent and overlapping risk and protective factors rooted in personality, behavior and social context. Our purpose was to identify personality, behavior and social context factors specifically associated with amphetamine use in this population, for the purpose of informing preventive interventions and treatment.

**Methods:** Data was collected from 698 students aged 14–18 years attending alternative education and juvenile correction camp schools who participated in an HIV/STI prevention intervention. Multivariate regression and  $\chi^2$  analyses using baseline data were used to explore associations of amphetamine use with other problem behaviors.

**Results:** Nearly 40% of the students reported lifetime amphetamine use (37%) whereas 17% had used amphetamines within the previous 90 days. Recent amphetamine use was highest among females (24%) and Latinos (22%) while very few African Americans reported recent use (<1%). Contextual predictors of amphetamine use included parental drug use and poor parental monitoring, whereas personality-related predictors included symptoms of anxiety. The hypothesis linking other problem behaviors to amphetamine use was supported by significant associations between amphetamine use and behavioral predictors such as other substance use, school expulsion, convictions for selling drugs and having made a partner pregnant (all  $p < .05$ ).

**Conclusions:** The pervasiveness of associations with recent amphetamine use across personality, behavior and social context domains indicates the depth and complexity of this problem among delinquent adolescents. Interventions targeting delinquent and incarcerated adolescents would benefit from a holistic approach that addresses coping with difficult family environments and individual characteristics such as mood disorders while promoting substance use behavior change.

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### 13-year outcomes of treatment for methamphetamine use: Patterns of use and correlates

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**Aims:** Evidence is accumulating on short-term effectiveness of treatment for methamphetamine (MA) use, but little is known about long-term outcomes. The study examines MA use for 13-years post-treatment, identifies use trajectories, and compares selected MA-user characteristics across pattern groups.

**Methods:** Data are from 3 successive Natural History Interviews for a sample of MA users randomly selected from mid-1990s treatment admission records in Los Angeles County. Interviews were conducted in 1999–2001 ( $n = 351$ ), 2001–03 ( $n = 279$ ), and 2009–12 ( $n = 240$ ) and included background, health, and risk behavior status and drug use, treatment, and criminal behavior histories over time. Monthly timelines were constructed for assessment of patterns of number of days per month with MA use. Group based trajectory analysis distinguished patterns across the post-treatment period. Pattern subgroups were compared on selected background, treatment, and post-treatment characteristics, using chi-square and general linear models.

**Results:** The sample was 44% female; 47% non-Hispanic white, 16% Black, 30% Hispanic, 6% other ethnicity. Of those with full follow-up, 15% were continuously MA-abstinent; an additional 65% were currently MA-abstinent but also had periods of use during follow-up. Five distinct post-treatment MA use patterns were identified: a continuously low/no use group (36% of sample), with 4 other groups with MA use directly following treatment but differing in timing of increase/decrease in use during follow-up. Few background characteristics distinguished the pattern groups. However, the low use group had highest rate of post-treatment self-help participation. Analysis will also compare the use pattern groups on current cognitive status, employment, and health characteristics.

**Conclusions:** Results illustrate the diverse post-treatment MA use patterns and support the need for continuing interventions for many users across an extended time following treatment. Further exploration of group differences may assist in identifying subgroups of MA users at most risk for continuing use and needing continuing care.

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### Subjective effects produced by cocaine are in association with genetic variants of DAT



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**Aims:** The dopamine transporter (DAT) has been implicated in the subjective and reinforcing effects produced by cocaine, and polymorphisms within the DAT gene (DAT1, or SLC6A3) have also